

SECTION 05520

HANDRAILS AND RAILINGS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Steel pipe handrails, balusters and fittings

1.2 DESIGN REQUIREMENTS

- A. Design, fabricate and install railing assembly, wall rails and attachments to resist a lateral force of 200 pounds applied in any direction, at any point on the railing without causing damage or permanent set.
- B. Comply with NFPA 101, Life Safety Code.

1.3 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 01300.
 - 1. Catalog data indicating prefabricated components such as mounting brackets, trim pieces, etc..
 - 2. Shop drawings indicating profiles, sizes, connection attachments, anchorage, type and size of fasteners, and accessories.

PART 2 PRODUCTS

2.1 STEEL RAILING SYSTEM MATERIALS

- A. Use pipe conforming to ASTM A500, Grade B, Schedule 40.
- B. Make rails and posts of 1 1/2 inch outside diameter steel pipe with welded joints.
- C. Use cast steel fittings, elbows, T shapes, wall brackets, escutcheons, etc..
- D. Provide mountings for [casting in concrete, embedding in masonry or mounting to drywall partitions], as shown on Drawings.
- E. Use flush, countersunk screws or bolts, consistent with design of railing system.
- F. Use concealed splice connectors.
- G. Apply SSPC 15, Type 1, red oxide shop primer.

2.2 FABRICATION

- A. Fit and shop assemble components in largest practical sizes for delivery to site.
- B. Fabricate components with joints tightly fitted and secured. Provide spigots and sleeves to accommodate site assembly and installation.
- C. Provide anchors and fittings required for fastening assembly to structure. Fabricate anchors and related components of same material, with same finish, as post and railing fabrication.
- D. Continuously seal exterior components by continuous welds. Drill condensate drainage

holes at bottom of members in locations that will not allow water intrusion.

- E. Join interior components with continuous welds; grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.
- F. Accurately form components to fit each other and to building structure.

PART 3 EXECUTION

3.1 INSPECTION

- A. Verify that field conditions are acceptable and are ready to receive this Work.

3.2 PREPARATION

- A. Clean and strip primed steel items to bare metal where site welding is required.
- B. Supply items required to be [cast in concrete, embedded in masonry or built into partitions] with setting templates, to appropriate trades.

3.3 INSTALLATION

- A. Install components plumb and level, accurately fitted, and free from distortion or defects.
- B. Field weld anchors as indicated on shop drawings. Grind welds smooth, and touch up with primer.
- C. Assemble railings with spigots and sleeves to provide tight joints and secure installation.

3.4 ERECTION TOLERANCES

- A. Maximum variation from plumb is 1/4 inch per story, non-cumulative.
- B. Maximum offset from true alignment is 1/4 inch.
- C. Maximum out-of-position is 1/4 inch.

END OF SECTION